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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/805,588

03/19/2004

Jack B. Andersen

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EXAMINER

SUTHERS, DOUGLAS JOHN

ART UNIT

PAPER NUMBER

2614

MAIL DATE

DELIVERY MODE

10/27/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/805,588	Applicant(s) ANDERSEN ET AL.	
	Examiner Douglas J. Suthers	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-14 and 16-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-14 and 16-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2614.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9 and 10 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 9 and 10 recite the limitation "the clip filter". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim(s) 13, 14, and 16-24 is/are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must (1) be

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ties to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing (Reference the May 15, 2008 memorandum issued by Deputy Commissioner for Patent Examining Policy, John J. Love, titled "Clarification of 'Processes' under 35 U.S.C. 101"). The instant claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, 5, 8, 12, 13, 14, 16, 17, 20, and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Sugihara (US 5493296).

Regarding claim 1, Sugihara discloses a system comprising:

A noise shaper (figure 1, item 13) configured to receive an input audio signal (from 11) and perform a shaping process including re-quantizing the input audio signal to

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produce a processed audio signal and shifting quantization noise in the processed audio signal out of an audio band;

a detector (15) coupled to the noise shaper and configured to detect a clipping of the input audio signal in the noise shaper (clipping occurs if input not equal to output);

a signal processor (12 and 16) coupled to receive a feedback signal from the detector (from 15 to 16);

wherein the signal processor is configured to modify the input audio signal (12) in response to the feedback signal received from the detector, wherein the modification of the input audio signal is a function of the detected clipping (function of feedback signal).

Regarding claim 2, Sugihara discloses wherein modification of the audio signal by the signal processor is variable (via switch 23 of figure 2).

Regarding claim 5, Sugihara discloses wherein the signal processor is configured to modify the input audio signal by clipping the input audio signal (if DC detected, least significant bits clipped off).

Regarding claim 8, Sugihara discloses further comprising a filter (16) coupled between the detector and the signal processor, wherein the filter is configured to filter the feedback signal of the detector.

Regarding claim 12, Sugihara discloses wherein the clipping condition comprises simple clipping of the audio signal (clipping occurs if input not equal to output).

Regarding claims 13, 14, 16, 17, 20, and 24, method claims 13, 14, 16, 17, 20, and 24 are rejected in an analogous manner to apparatus claims 1, 2, 4, 5, 8, 12.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 9-11, 16, and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugihara (US 5493296).

Regarding claim 4, although Sugihara does not expressly disclose the use of a digital amplifier, the examiner takes official notice that the use of digital amplifiers were well known in the art. The motivation to use such would have been to allow for amplification of the output audio signal for reproduction. Therefore at the time of invention, it would have been obvious to one of ordinary skill in the art to further comprise one or more components of a digital audio amplifier.

Regarding claim 9, Sugihara discloses wherein the clip filter comprises a counter (coincident counter of figure 6) that is incremented for each clock cycle in which the output signal of a detector (17) is asserted and that is reset on each clock cycle in which the output signal of the clip detector is not asserted (S17). Although Sugihara does not expressly disclose using such a counter on the feedback signal, it would have been obvious to use such on the feedback signal as well. The motivation to do so would have been to avoid oscillations as taught by Sugihara (column 9 lines 3-8). Therefore at the time of invention, it would have been obvious to one of ordinary skill in the art to use such a counter on the feedback signal.

Regarding claim 10, Sugihara discloses wherein the clip filter is configured to assert a signal when the counter reaches a threshold level (S16).

Regarding claim 11, Sugihara discloses further comprising a flag circuit (DC detection flag of figure 6) coupled between the filter and the signal processor, wherein the flag circuit is configured to receive the a signal and, if the signal is in an asserted state, to maintain the filtered feedback signal in the asserted state until the flag circuit is reset by the signal processor (figure 8 signal from 62). Although Sugihara does not expressly disclose using such a flag circuit on the feedback signal, it would have been obvious to use such on the feedback signal as well. The motivation to do so would have been to avoid oscillations as taught by Sugihara (column 9 lines 3-8). Therefore at

the time of invention, it would have been obvious to one of ordinary skill in the art to use such a flag circuit on the feedback signal.

Claims 6, 7, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugihara (US 5493296) in view of Klippel (US 5528695).

Regarding claim 6, Sugihara does not expressly disclose the use of compression.

Klippel discloses wherein a signal processor is configured to modify the audio signal by compressing the audio signal (figure 4, via 34).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the compression techniques of Klippel in the noise shaping system of Sugihara. The motivation for doing so would have been to avoid overloading the re-quantizer, thereby inducing noise. Therefore, it would have been obvious to combine Klippel with Sugihara to obtain the invention as specified in claim 6.

Regarding claim 7, Klippel discloses wherein the signal processor is configured to modify the audio signal by compressing only a portion of the audio signal that exceeds a threshold amplitude level (column 6 lines 26-38).

Regarding claims 18-19, method claims 18-19 are rejected in an analogous manner to apparatus claims 6-7.

Response to Arguments

Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas J. Suthers whose telephone number is (571)272-0563. The examiner can normally be reached on Monday-Friday 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Douglas J Suthers/
Examiner, Art Unit 2614

/Vivian Chin/
Supervisory Patent Examiner, Art Unit 2614